



[7590-01-P]

## NUCLEAR REGULATORY COMMISSION

### 10 CFR Part 72

[Docket Nos. PRM-72-7; NRC-2012-0266; NRC-2014-0067]

### Spent Fuel Cask Certificate of Compliance Format and Content

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Petition for rulemaking; consideration in the rulemaking process.

**SUMMARY:** The U.S. Nuclear Regulatory Commission (NRC) will consider in its rulemaking process six issues raised in a petition for rulemaking (PRM), PRM-72-7, submitted by Anthony Pietrangelo, on behalf of the Nuclear Energy Institute (NEI or the petitioner). The petitioner requests that the NRC amend its regulations to improve the efficiency of the licensing and oversight of spent fuel dry cask storage.

**DATES:** The docket for the petition for rulemaking, PRM-72-7, is closed on **[INSERT DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

**ADDRESSES:** Further NRC action on the issues raised by this petition can be found on the Federal rulemaking Web site at <http://www.regulations.gov> by searching on Docket ID: NRC-2014-0067, which is the identification for the future rulemaking.

Please refer to Docket ID NRC-2012-0266 when contacting the NRC about the availability of information regarding this petition. You can access publicly available documents related to the petition using the following methods:

- **Federal Rulemaking Web Site:** Go to: <http://www.regulations.gov> and search on the petition Docket ID NRC-2012-0266. Address questions about NRC dockets to Carol Gallagher; telephone: 301-287-3422; e-mail: [Carol.Gallagher@nrc.gov](mailto:Carol.Gallagher@nrc.gov). For technical questions, contact the individual listed in the FOR FURTHER INFORMATION CONTACT section of this document.

- **NRC's Agencywide Documents Access and Management System (ADAMS):** You may access publicly available documents online in the ADAMS Public Documents collection at <http://www.nrc.gov/reading-rm/adams.html>. To begin the search, select "[ADAMS Public Documents](#)" and then select "[Begin Web-based ADAMS Search](#)." For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at: 1-800-397-4209 or 301-415-4737, or by e-mail to [pdr.resource@nrc.gov](mailto:pdr.resource@nrc.gov). The ADAMS accession number for each document referenced (if it is available in ADAMS) is provided the first time that it is mentioned in the SUPPLEMENTARY INFORMATION section.

- **NRC's PDR:** You may examine and purchase copies of public documents at the NRC's PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

**FOR FURTHER INFORMATION CONTACT:** Keith McDaniel, Office of Federal and State Materials and Environmental Management Programs, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; telephone: 301-415-5252; e-mail: [Keith.McDaniel@nrc.gov](mailto:Keith.McDaniel@nrc.gov).

## **SUPPLEMENTARY INFORMATION:**

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### **I. The Petition.**

On October 3, 2012, the NRC received a PRM filed by NEI (ADAMS Accession No. ML12299A380). The NEI is a nuclear energy organization that works on matters affecting the nuclear energy industry. The petitioner requests that the NRC amend part 72 of Title 10 of the *Code of Federal Regulations* (10 CFR), “Licensing Requirements for the Independent Storage of Spent Nuclear Fuel, High-Level Radioactive Waste, and Reactor-Related Greater Than Class C Waste,” to add a new rule governing spent fuel storage cask certificate of compliance (CoC) format and content, extend the applicability of the backfit rule to CoC holders, and make other changes. The petitioner states that these changes are needed improvements based on experience and risk insights gained since the 10 CFR part 72 regulations were developed in the 1980s and modified in 1990. The petitioner also claims that the proposed changes would improve regulatory efficiency and effectiveness, as well as serve an important safety function by allowing both industry and NRC resources to be focused on safety-significant information. The petitioner states that more efficient and effective NRC oversight of dry cask storage will improve implementation of dry cask storage requirements. Furthermore, the petitioner claims these

proposed changes offer a holistic approach to regulatory improvements and result in a more risk-informed regulatory framework.

The NRC published a notice of receipt of the petition and request for public comment in the *Federal Register* (FR) on February 5, 2013 (78 FR 8050). After analyzing the issues raised in the petition and reviewing the public comments, the NRC concludes that the issues are appropriate for rulemaking consideration.

## **II. Public Comments on the Petition.**

The notice of receipt of the PRM requested that interested persons submit comments to the NRC. The comment period closed on April 22, 2013. The NRC received five comment letters (ADAMS Accession No. ML14134A072). Four letters were from members or representatives of the nuclear industry and one letter was from four U.S. Senators. The public comments supported NEI's claim that greater efficiencies were needed in the 10 CFR part 72 licensing process and generally supported the issues raised in the petition.

All five comment letters emphasized creating specific criteria for the format and content included in spent fuel storage cask CoCs and technical specifications. One comment letter suggested that this change would make storage cask licensing consistent with power reactor licensing and improve regulatory efficiency. Three comment letters stated that the proposed changes would create a more risk-informed regulatory framework that may reduce a possible backlog of cask license amendment reviews in the future, if, as the commenters expect, the number of loaded casks doubles in the next 10 years.

One comment letter stated that the proposed changes could improve nuclear safety by focusing the CoC and technical specifications on safety significant issues. Four comment

letters stated that the proposed changes would make dry cask licensing consistent with the Commission's Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors (58 FR 39132; July 22, 1993). Finally, three comment letters supported applying backfit protection to CoC holders to create needed regulatory consistency between part 72 licensees and CoC holders.

The NRC considered the public comments in its analysis of the petition.

### **III. NRC Analysis.**

#### **Issue 1: *Add a New Rule for CoC Format and Content***

The petitioner requests that 10 CFR part 72, subpart L, "Approval of Spent Fuel Storage Casks," be amended to provide specific criteria for the format and content of the CoC for a spent fuel storage cask. The petitioner states that this change would improve regulatory clarity and stability by assuring that the level of detail in CoCs is consistent and risk-informed. The petitioner asserts that defining CoC format and content can only be effective if included as a regulation, rather than guidance.

The petitioner asserts that the changes recommended by the petitioner related to the format will improve ease of use and ensure that there is clarity with respect to the division of responsibilities between CoC holders and licensees in implementing the CoC, which will enhance compliance and NRC oversight. The petitioner states that the additions related to the content will ensure that there is clarity for applicants and certificate holders with respect to the appropriate information to be included in the draft CoC (part of the application), which will improve efficiencies by focusing on the safety significant aspects of cask use.

This will also reduce the number of unnecessary CoC amendments by eliminating the need for NRC review of information that the petitioner believes need not be included in many CoCs.

NRC Response to Issue 1:

The NRC accepts Issue 1 for consideration in the rulemaking process. The NRC agrees that adding specific criteria for CoC format and content to its regulations could promote consistency. The NRC also agrees that a change may promote efficiency in the oversight of dry storage, including licensing reviews. However, the NRC does not agree with the comment that a significant increase in expected cask loadings (e.g., doubling over the next decade) necessarily correlates to an equivalent increase in the NRC staff's review work.

The requirements in 10 CFR part 72, subpart L, apply to approval of spent fuel storage casks. While the NRC issued guidance in NUREG-1745, "Standard Format and Content for Technical Specifications for 10 CFR Part 72 Cask Certificates of Compliance," dated June 2001 (ADAMS Accession No. ML011940387), there are currently no specific requirements for the format or content of the CoC. The CoC includes the certificate and the associated technical specifications (usually an appendix to the certificate). These documents together constitute the approved system and procedures for spent fuel storage casks.

The petitioner claims its request is similar to the requirements in 10 CFR 50.36, "Technical Specifications," for reactors. The NRC staff notes that 10 CFR 50.36 contains requirements for the content, but not format, of technical specifications, and that format for

reactor technical specifications is addressed by the NRC in associated guidance, and not by rule.<sup>1</sup> Furthermore, 10 CFR 50.50 states that the Commission will issue a license in such form and containing such conditions including technical specifications, as it deems appropriate. An analogous approach may be appropriate for 10 CFR part 72 as well. This will be evaluated further in the rulemaking process.

If the NRC determines in the rulemaking process that standardized format and content requirements should be developed for 10 CFR part 72, subpart L, the NRC may also consider development of similar regulations for subpart C, "Issuance and Conditions of License." Specific licenses issued under 10 CFR part 72 also use technical specifications as part of their licensing basis.

Finally, the rulemaking process may consider whether existing CoCs and amendments should be revised to meet any new regulations on content or format.

## Issue 2: Add Backfit Protection to CoC Holders

The petitioner requests that 10 CFR 72.62 be modified so that backfit protection is applicable to CoC holders in addition to licensees. The petition states that this change would improve consistency between the way in which specific and general part 72 licensees, and CoC holders, are regulated, and that this revision would ensure that changes to CoCs are imposed only after an adequate justification has been developed.

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<sup>1</sup> See NUREG-1430, Vols. 1 and 2, Rev. 4, "Standard Technical Specifications — Babcock and Wilcox Plants" (ADAMS Accession Nos. ML12100A177 and ML12100A178); NUREG-1431, Vols. 1 and 2, Rev. 4, "Standard Technical Specifications — Westinghouse Plants" (ADAMS Accession Nos. ML12100A222 and ML12100A228); NUREG-1432, Vols. 1 and 2, Rev. 4, "Standard Technical Specifications — Combustion Engineering Plants" (ADAMS Accession No. ML12102A165 and ML12102A169); NUREG-1433, Vols. 1 and 2, Rev. 4, "Standard Technical Specifications — General Electric Plants (BWR/4)" (ADAMS Accession Nos. ML12104A192 and ML12104A193); and NUREG-1434, Vols. 1 and 2, Rev. 4, "Standard Technical Specifications — General Electric Plants (BWR/6)" (ADAMS Accession Nos. ML12104A195 and ML12104A196).

### NRC Response to Issue 2:

The NRC accepts Issue 2 for consideration in the rulemaking process. The petitioner raises regulatory stability and predictability concerns with respect to CoC holders. The NRC notes that the application of backfit protection may require revisiting the current NRC practice of issuing each CoC amendment as a stand-alone CoC.

As part of the NRC's consideration of these concerns, the NRC may review the various approaches for addressing regulatory stability and predictability that the NRC has adopted in its regulations, including approaches such as those in 10 CFR 72.62, "Backfitting," and 10 CFR 52.63, "Finality of Standard Design Certifications."

### Issue 3: *Delete the Requirement for the Review of the Cask SER*

The petitioner requests that 10 CFR part 72, subpart K, "General License for Storage of Spent Fuel at Power Reactor Sites," be amended to remove the requirement in 10 CFR 72.212(b)(6) for general licensees to perform a review of the NRC's Safety Evaluation Report (SER) for the CoC or amended CoC prior to use by a general licensee. The petition asserts that this change would conform with a previous NRC position and would eliminate an unnecessary requirement. The petitioner further states that review of the SER is extraneous, as the SER will not contain any new requirements or commitments that are not already contained in the CoC and the Final Safety Analysis Report associated with an NRC approved cask design.

### NRC Response to Issue 3:

The NRC accepts Issue 3 for consideration in the rulemaking process. In 10 CFR 72.212(b)(6), general licensees are required to determine whether or not the reactor site parameters are enveloped by the cask design bases considered in the Safety Analysis Report referenced in the CoC or amended CoC and the related NRC SER.



The CoC and associated technical specifications constitute the system requirements for approved spent fuel storage systems. The CoC holder's Safety Analysis Report provides more detail about the system, guidance for system use, and procedures not included in the technical specifications. The NRC staff's SER describes the staff's review, conclusions on the adequacy of the cask design, and bases for those conclusions. This information may be useful to a general licensee in evaluating the use of an approved cask design at its site. Whether or not review of the SER is required, the general licensee is obligated to ensure that the dry storage system, as used at their site, is in conformance with the CoC, and that dry storage at their site complies with the regulations. Therefore, the NRC staff accepts Issue 3 for consideration in the rulemaking process.

#### Issue 4: Programs and Plans

The petition requests that 10 CFR part 72, subpart K, be amended to clarify the requirement to review various plans and programs that are governed by other regulations. Section 72.212(b)(10) requires that general licensees perform a review of the emergency plan, quality assurance program, training program, and radiation protection program, to determine if their effectiveness is decreased and, if so, prepare the necessary changes and seek and obtain the necessary approvals. The petitioner claims that the current rule may be interpreted as imposing change control requirements for these programs that are different than the existing change control requirements in other parts of the regulations. Accordingly, the petitioner claims that this change would remove ambiguity and duplication, and improve clarity by only directing the general licensee to the appropriate change control requirements.

#### NRC Response to Issue 4:

The NRC accepts Issue 4 for consideration in the rulemaking process. General licensees have emergency plans, quality assurance programs, training programs, and radiation protection programs that may need to be changed in order to use a spent fuel storage cask. For Issue 4, the petition specifically requests that 10 CFR 72.212(b)(10) be modified to clarify the general licensee review requirements for these programs. The purpose of 10 CFR 72.212(b)(10) is to ensure that such changes are identified and made. While the NRC does not believe that the current rule alters existing change control requirements for the programs listed in 10 CFR 72.212(b)(10), it does recognize the standard for the evaluation in this section may not be applicable for certain programs' change control processes and that the rule could be clarified. Therefore, the NRC agrees to consider if and how 10 CFR 72.212(b)(10) could more clearly state the relationship between the scope of 10 CFR 72.212(b)(10) reviews and other reviews for the same programs.

As part of the NRC's consideration, the NRC may also evaluate whether other programs and plans should be encompassed by 10 CFR 72.212(b)(10).

#### Issue 5: *Revise the Requirement for Cask Marking*

The petitioner requests that 10 CFR part 72, subpart L, be amended to remove the requirement in 10 CFR 72.236(k)(3) to mark the empty weight on each storage cask. The petitioner states that marking the empty weight on the cask results in increased time and cost for cask fabrication activities and serves no useful purpose.

#### NRC Response to Issue 5:

The NRC accepts Issue 5 for consideration in the rulemaking process. While the NRC does not agree that the cask marking requirement serves no useful purpose, the NRC agrees

that it is appropriate to consider the petitioner's request because the requirement may be limited in its usefulness. For operations covered under 10 CFR part 72, the loaded weight is more relevant than the empty cask weight.

This issue will be more fully evaluated during the rulemaking process which will ensure that appropriate safety and transportation compatibility requirements in the rule, including markings for transportation packages and records of the empty weight, remain adequate.

#### Issue 6: Criticality Monitoring

The petitioner requests that 10 CFR 72.124(c) be modified to expand the scope of activities for which criticality monitoring is not required. Specifically, the petitioner requests that 10 CFR 72.124(c) be amended to clarify that criticality monitoring is not required for cask loading, preparation, onsite transport, and storage operations for dry storage operations governed by a 10 CFR part 72 license. The petitioner states that this change is consistent with NRC guidance and with other NRC regulations.

#### NRC Response to Issue 6:

The NRC accepts Issue 6 for consideration in the rulemaking process. The NRC staff notes that the criticality monitoring requirements in 10 CFR 72.124(c) have caused confusion in the past, and that clarifying changes may be appropriate. A change to this part of the requirements may also impact other aspects of 10 CFR part 72 criticality safety requirements; this would need to be considered in the rulemaking process. For example, the petitioner notes that power reactor licensees may rely on a demonstration of subcriticality per the requirements in 10 CFR 50.68, "Criticality Accident Requirements," in lieu of providing criticality monitoring. Although the NRC staff may consider analogous requirements for casks in rulemaking, the staff notes that criticality analyses for casks include operational assumptions that may not support

complete elimination of monitoring requirements. Additionally, the scope of the rule includes site-specific independent spent fuel storage installations and monitored retrievable storage installations, which may store particular spent fuel types and other forms of high-level radioactive waste that differ from the commercial light-water power reactor spent fuel discussed by the petitioner. These differences may dictate different criticality monitoring needs.

Therefore, the NRC believes that the scope of the NRC consideration of the petitioner's request should include: 1) the need, if any, to modify other criticality safety requirements in 10 CFR 72.124 as a result of sole reliance on bounding criticality analyses instead of criticality monitoring, and 2) the different storage facilities that may be licensed under 10 CFR part 72 and the different fuel types and high-level radioactive wastes that may be stored at those facilities.

#### **IV. Determination of Petition.**

The NRC has reviewed the petition and related public comments. Based on its review, the NRC believes that the six issues raised in the petition should be considered in the rulemaking process.

Further NRC action on the issues raised in PRM-72-7 can be monitored on the Federal rulemaking Web site, <http://www.regulations.gov>, by searching on Docket ID NRC-2014-0067, which is the identification for the future rulemaking. In addition, the Federal rulemaking Web site allows you to receive alerts when changes or additions occur in a docket folder. To subscribe for alerts: 1) navigate to the docket folder (NRC-2014-0067); 2) click the "Sign up for E-mail Alerts" link; and 3) enter your e-mail address and select how frequently you would like to receive e-mails (daily, weekly, or monthly). The NRC tracks all rulemaking actions on its Web site at <http://www.nrc.gov/reading-rm/doc-collections/rulemaking-ruleforum/>.

For the reasons cited in this document, the NRC will consider this petition in its rulemaking process. The docket for the petition, PRM-72-7, is closed.

Dated at Rockville, Maryland, this 27<sup>th</sup> day of June, 2014.

For the Nuclear Regulatory Commission.

Darren B. Ash,  
Acting Executive Director for Operations.

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